

## **FINDING OF NO SIGNIFICANT IMPACT**

### **Tennessee Valley Authority Nickajack Hydro Plant Modernization of Hydroturbines Marion County, Tennessee**

The Tennessee Valley Authority (TVA) has undertaken the rehabilitation and modernization of generating turbines at 10 of its aging hydro plants to date. Hydromodernization (HMOD) of the four turbines at Nickajack Hydro Plant (NJH) is needed to ensure safe and reliable peak power generation and potentially to provide an additional 14 megawatts (MW) of generating capacity for the TVA power system. Capacity gains and efficiency improvements at NJH would help meet projected increased demand for peaking power on the TVA system.

TVA has prepared an environmental assessment (EA) in accordance with the National Environmental Policy Act and the implementing regulations of the Council on Environmental Quality and TVA. The Final EA incorporates by reference and tiers from TVA's Integrated Resource Plan (Energy Vision 2020) Environmental Impact Statement (EIS) and the TVA Reservoir Operations Study EIS.

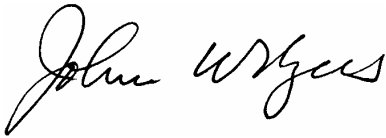
TVA considered two alternatives; the No Action Alternative and the Nickajack HMOD Alternative. Under the No Action Alternative, TVA would continue to maintain and/or replace the existing generating components at NJH on an as-needed basis. No increase in generating capacity from the current Overall Weighted Capacity (OWC) of 100 MW would be achieved. The design maximum sustainable load (MSL) flow of 46,000 cfs of the turbines would not change, and no change in present environmental effects or trends would be expected to occur. Under the Nickajack HMOD Alternative, TVA would, as describe in the subject EA, hydromodernize Units 1-4 between the years 2009 and 2016. The actions would result in an increase of the OWC by a total of 14 MW for the NJH hydro plant. After hydromodernization, the units could discharge an MSL flow of 51,000 cfs. However, combined total daily flow past NJH from turbine releases and spillage over the dam would not change. TVA's preferred alternative is the Nickajack HMOD Alternative.

Under the No Action Alternative, routine maintenance and upgrades would continue to occur, but tailwater flows, elevations, operating regimes, and their consequent environmental impacts would not change. Some minor construction impacts would occur, but there would be no change to patterns or amounts of erosion. TVA would need to replace the 14 MW of hydropower that otherwise would be realized from HMOD with purchased power or power from another TVA generation source.

Under the Nickajack HMOD Alternative, minor, but insignificant effects would occur to erosion, surface water, groundwater, aquatic life, wetlands, terrestrial resources, managed areas, visual resources, air quality, socioeconomic conditions, and generation of waste from either construction and/or operations. There would be no effects to any federal listed species. In assessing the potential for effects, TVA, in consultation with the Tennessee State Historic Preservation Officer, determined that the proposed

Nickajack HMOD Alternative would be an undertaking with the potential to affect National Register of Historic Properties (NRHP) potentially eligible, eligible, or listed archaeological sites/districts. TVA has subsequently executed a Memorandum of Agreement (MOA) with the Tennessee SHPO. With implementation of the MOA and its measures as described in the section of the EA titled, "Summary of TVA Commitments and Proposed Mitigation Measures," the effects of the proposed action on Cultural Resources would be small and insignificant.

The NEPA Policy staff of Environmental Strategy and Management reviewed the subject EA and determined that the potential environmental consequences of TVA's proposed action have been addressed, and that the No Action and the Nickajack HMOD Alternative to hydromodernize the generating units at Nickajack Dam are not major federal actions significantly affecting the quality of the environment. Accordingly, an EIS is not required.



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*January 31, 2008*

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